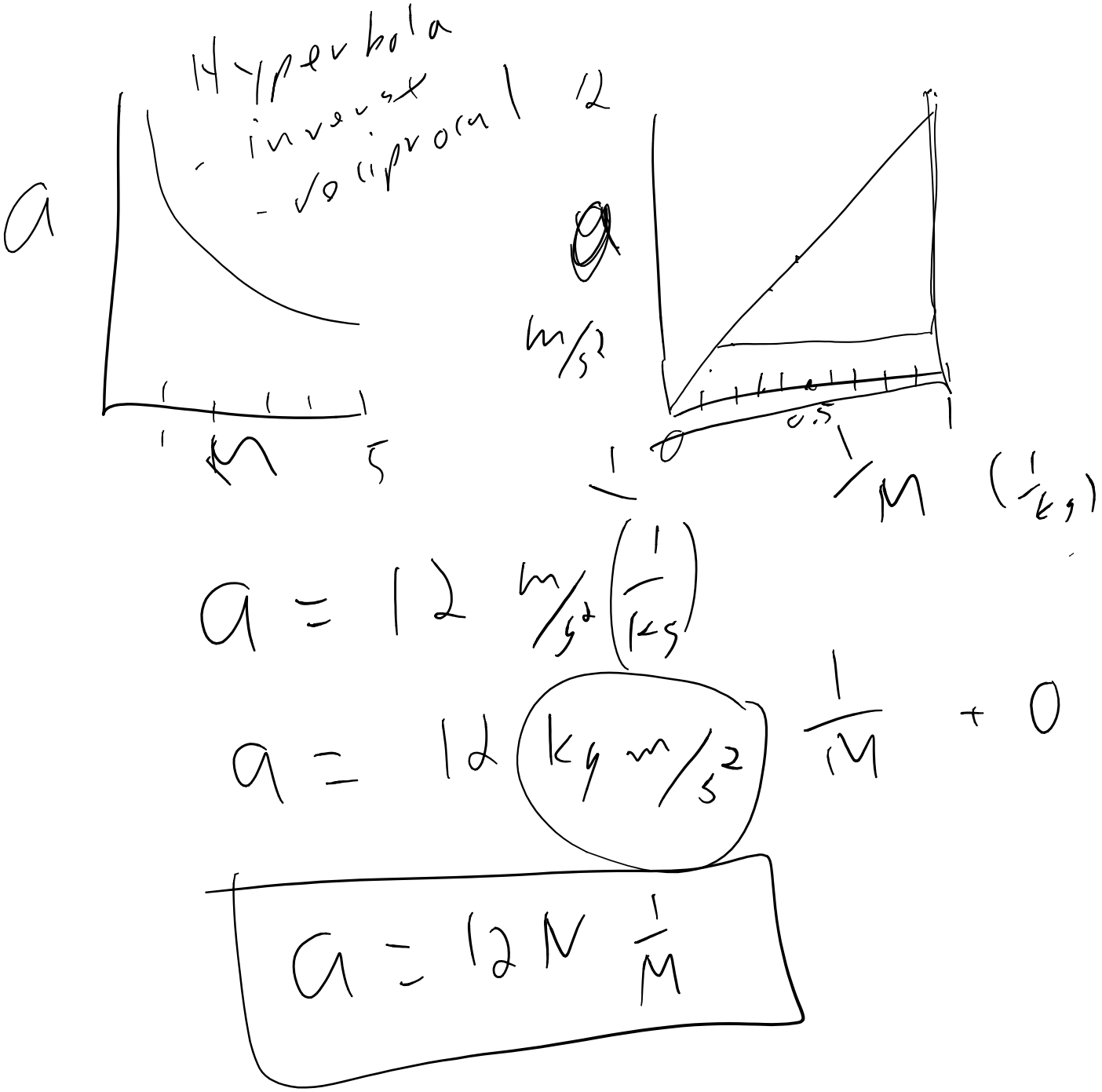
Quiz Thursday September 22
sig figs, graphing, problem solving, lab, kinematics



Lab Reports:

Name: partner's name: Block:
Title:
Purpose: the variables you are exploring
Hypothesis: equations, define variables, accepted values
Materials and procedures: - don't copy out of the labbook or worksheet - just say "refer to lab p __"
Observations:
table, units and proper sig figs, labels

Analysis: graph the data and derive equation
answer questions from the lab manual

conclusion: does the data support the hypothesis?
% error
  How closely? uncertainty

sources of uncertainty: try to quantify the issues and compare to error and data spread.
systematic error vs random error

eg.
Oscillation of a Mass on a Spring
Name_____ partner's name_____block____
Purpose:
   Determine the relationship between
1. period of oscillation and the mass on the spring
2. the period of oscillation and the initial amplitude

Hypothesis:

1: T is period is the time for the mass to go down and back up.
m is mass on the spring
k is the spring constant, k=F/x x is extension
T=2 pi root(m/k) graph T vs root M to be linear

2. do your own hypothesis for amplitude with reason

materials and procedure:
set of masses, spring, stand, metrestick, timer,
Determine k by putting a mass on the spring and observe the extension.

1. Put various masses on a spring suspended from a stand. Lift the mass and let go, time 3 oscillations, the period is 1/3 that time.
2. Use a large mass, vary the initial height you drop it from.

observations:k=(massx9.8N/kg)/extension(stretch)
part 1 varying mass (at least 5, up to 10)

mass(kg)	time(s)	T(s)	root mass(root kg)
1.0	6.0	2.0	1.0

part 2 vary initial amplitude (do 5, same mass)

amplitude (cm)	time(s)	T(s)

analysis
part 1 graph T vs root m
part 2 graph T vs A
%error of the slope of part 1 vs 2 pi / root(k)